

Abstract

1 Signal management control units $47_1 - 47_n$ of respective scan
2 drivers LSI in an LCD module are cascade-connected and each have
3 the same construction. A detected signal of the signal management
4 control unit 47_J is a data signal latch clock LP applied to a terminal
5 CKB_1 . A detected signal of the signal management control unit 47_2 is
6 a frame start signal SP applied to a terminal CKB_2 . A detected signal
7 of the signal management control unit 47_n is an AC-transforming
8 clock FR applied to a terminal CKB_n . The signal management control
9 unit 47_1 includes a signal stop detection circuit 48 serving as a signal
10 detection means for detecting a stop of the detected signal and a
11 sequence processing circuit 51 consisting of a signal delay circuit 49
12 and a logic circuit 50. When stopping oscillations of, e. g., the frame
13 start signal SP, outputs $T_1 - T_n$ of the circuit 51 change to an L level.
14 Hence, a display-off signal DF of the LCD module assumes the L level.
15 A liquid crystal panel is forcibly set in a display-off mode. As a
16 result, even if the frame start signal SP is stopped due to some cause,
17 a liquid crystal application voltage is set down to zero. It is,
18 therefore, possible to avoid a liquid crystal DC drive and prevent a
19 deterioration of the liquid crystal.
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